



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

279-3630

Date of Issuance:

8/8/19

NOTICE OF PESTICIDE:

Registration
 Reregistration
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

F9177-2 WG

Name and Address of Registrant (include ZIP Code):

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the following label changes before you release the product for shipment:
 - Revise the EPA Registration Number to read, "EPA Reg. No. 279-3630."
3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

Signature of Approving Official:

Rachel Holloman, Chief
Fungicide Herbicide Branch, Registration Division (7505P)

Date:

8/8/19

EPA Form 8570-6

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 6/26/2019

If you have any questions, please contact Nathan Mellor by phone at 703-347-8562, or via email at mellor.nathan@epa.gov.

Enclosure

Chlorothalonil	Group	M5	Fungicide
Valifenalate	Group	40	Fungicide

F9177-2 WG Fungicide

EPA Reg. No. 279-xxxx

EPA Est. No. _____

Active Ingredients:	By Wt.
Chlorothalonil	65%
Valifenalate	10%
Other Ingredients	25%
TOTAL	100%

F9177-2 WG Fungicide contains 0.65 lb ai of chlorothalonil and 0.10 lb ai of valifenalate per pound of product

KEEP OUT OF REACH OF CHILDREN DANGER / PELIGRO

Si usted no entiende esta etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

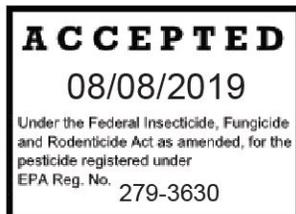
HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage; chemical adsorbents are recommended to reduce adsorption of the product. Persons suffering with temporary allergic skin reactions may respond to treatment with oral antihistamines and topical or oral steroids.

If in eyes, the upper and lower lids should be retracted and irrigated, and any particulate matter should be carefully removed from the conjunctival fornix. Irrigation should be continued until the conjunctival sac is neutral on pH testing with universal indicator paper. Fluroscein staining is required to reveal the extent of corneal or conjunctival epithelial loss. Topical antibiotic ointments are indicated when corneal epithelil damage is identified. Use of steroid eye drops is not advocated unless expressly requested by an ophthalmologist.

Sold by:
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104



Net Weight: _____

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER / PELIGRO

Corrosive. Causes irreversible eye damage. Do not get in eyes, skin or on clothing. May be fatal if inhaled. Do not breathe (dust, vapor or spray mist). Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators and other handlers must wear:

Protective eyewear

Long-sleeved shirt and long pants

Chemical resistant gloves

Wear a minimum of a NIOSH approved particulate filtering face piece with any N, R, or P filter; OR a NIOSH-approved elastometric particulate respirator with an N, R or P filter; OR a NIOSH-approved powered air-purifying respirator with a HE filter

Shoes plus socks

USER SAFETY REQUIREMENTS

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USERS SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates and wildlife. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This product contains chlorothalonil that is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This product contains chlorothalonil that can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field Canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Attention: This product contains a chemical known to the State of California to cause cancer.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, including plants, soil, or water, is: Protective eyewear, coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, shoes plus socks, wear a minimum of a NIOSH approved particulate filtering facepiece with any N, R, or P filter; OR a NIOSH-approved elastometric particulate respirator with an N, R or P filter; OR a NIOSH-approved powered air-purifying respirator with a HE filter.

Special Eye Irritation Provisions: This product is a severe eye irritant. Although the restricted-entry interval expires after 12 hours, for the next 6 ½ days entry is permitted only when the following safety measures are provided:

- 1) At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site intended for workers entering the treated area.
- 2) Workers must be informed of the following, in a manner they can understand:
 - residues in the treated area may be highly irritating to eyes
 - precautions must be taken, including refraining from rubbing eyes, to keep the residues out of eyes
 - if residue contacts eyes, immediately flush eyes using the eyeflush container that is located at the decontamination site or use other readily available clean water how to operate the eyeflush container.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage

Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool dry place and avoid excess heat.

In Case of Spill

Avoid contact. Isolate areas and keep out animals and unprotected persons. **Confine Spills. Call CHEMTREC (Transportation and spills): (800) 424-9300.**

To Confine Spills.

Dike surrounding area; sweep up spillage, Dispose of in accordance with information given under Pesticide Disposal. Wash spill area with water, absorb with sand, cat litter or commercial clay, sweep up and dispose of in an approved manner. Place damaged container in a large holding container. Identify contents per required hazardous waste labeling regulations.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Handling

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty

the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Returnable/Refillable Containers - Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

PRODUCT INFORMATION

F9177-2 WG is a fungicide that acts preventatively in foliar applications. F9177-2 WG is formulated as a dispersible granule formulation to be mixed with water and sprayed for fungicidal control in listed crops according to label directions. F9177-2 WG contains two active ingredients, valifenalate and chlorothalonil, which belong to two classes of fungicides with dual modes of action and activity. Preventative applications optimize translaminar and surface fungal pathogen control. To maximize disease control, apply F9177-2 WG fungicide on a regularly scheduled protective spray program. Use in rotation with other fungicides and modes of action for integrated pest management.

USE RESTRICTIONS

Do not use on greenhouse-grown crops.

Do not apply within 150 feet (for aerial and air-blast applications) or 25 feet (for ground applications) of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Do not combine F9177-2 WG in the spray tank with pesticides, adjuvants, surfactants, or fertilizers unless your prior use has shown the combination physically compatible, effective, and noninjurious under your conditions of use. The tank mixing behavior of this fungicide with other pesticides has not been fully investigated. If tank mixing with other pesticides is desirable, conduct a jar test with rates and volumes of carrier typically used in an agricultural application. Look for signs of separation, globules, sludge, flakes or other precipitates. DO NOT tank mix with the other pesticide if the jar test with F9177-2 WG Fungicide has indicated incompatibility. DO NOT tank mix with any product that has a prohibition for tank mixing with chlorothalonil.

Do not combine F9177-2 WG with *Bacillus thuringiensis* or non-ionic surfactants as phytotoxicity may result from the combination when applied to some crops on this label.

ROTATIONAL CROPS

Cereal crops- 30 day plant back interval. All other crops may be planted immediately after application (0 day PBI).

APPLICATION INFORMATION

RESISTANCE MANAGEMENT

For resistance management, please note that F9177-2 WG Fungicide contains both a Group M5/chlorothalonil and Group 40/valifenalate fungicide. Any fungal/bacterial population may contain individuals naturally resistant to F9177-2 WG Fungicide and other Group M5 or 40 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of F9177-2 WG Fungicide or other Group M5 and 40 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicide/bactericides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide/bactericide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM directions for specific crops and pathogens.

MIXING INSTRUCTIONS: Ensure the sprayer tank, filter and lines are clean, then partially fill the spray tank with clean water. Measure the required amount of F9177-2 WG Fungicide and pre-mix with a small volume of water, add this to the tank. Agitate to ensure thorough mixing while filling tank with remaining water. Maintain agitation during application and apply with properly calibrated application equipment. Do not allow spray mixture to stand overnight or for prolonged periods, as some chemical breakdown may occur, particularly in water with a high pH. The spray solution must be buffered to a pH of 5.0 - 7.0. A high quality, nonionic spreader can be used as a spray tank additive for every application with the exception of in-furrow sprays. F9177-2 WG Fungicide must be added to the tank before the addition of any adjuvant. Consult the adjuvant label or manufacturer for crop tolerance and safety information when used with F9177-2 WG Fungicide.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

GROUND APPLICATION: To achieve maximum benefit of F9177-2 WG Fungicide from foliar applications, coverage both outside and inside the plant canopy is required. Thorough coverage of foliage is obtained by use proper spray pressure, a minimum of 15 gallons per acre, appropriate nozzles that provide uniform spray distribution and minimize drift, nozzle spacing and sprayer speed. Follow directions of nozzle manufacturer for nozzle pressures.

AERIAL APPLICATION: For aerial application, apply in a minimum of 5 gallons per acre.

CHEMIGATION APPLICATION:

INSTRUCTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shutdown. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, including a positive displacement injection pump (e. g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment. If you are unsure of wind conditions, contact

your local extension agent. Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from nonuniform distribution of treated water. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments must the need arise. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

Application and Calibration Techniques for Chemigation

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you must contact State Extension Service specialists, equipment manufacturers or other experts. Do not apply this product through irrigation systems connected to a public water system. "Public water system" means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year. Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, if the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source. Always inject F9177-2 WG into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump. Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. Do not apply when wind speed favors drift beyond the area intended for treatment. Systems must use a metering pump, including a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

F9177-2 WGF9177-2 WG may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

A. Center Pivot, Motorized Lateral Move and Traveling Gun Irrigation Equipment

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems. Thoroughly mix recommended amount of F9177-2 WG for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until F9177-2 WG has been cleared from last sprinkler head.

B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) Irrigation Equipment

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump

can also be used. Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of F9177-2 WG for acreage to be covered with water so that the total mixture of F9177-2 WG plus water in the injection tank is equal to the quantity of water used during calibration and operate entire system at normal pressures directed by the manufacturer of injection equipment used, for amount of time established during calibration. Agitation is advised. F9177-2 WG can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until F9177-2 WG has been cleared from last sprinkler head.

Spray Tank Preparation

It is important that spray equipment is clean and free of existing pesticide deposits before using F9177-2 WG. Follow the spray tank cleanout procedures specified on the label of product previously sprayed. If no cleanout procedure is provided, follow the cleanout procedure in **SPRAYER CLEANUP** section of this label.

SPRAYER CLEANUP

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of F9177-2 WG as follows:

1. Drain tank; thoroughly hose down the interior surfaces of the tank; then flush tank, boom, and hoses with clean water for a minimum of 5 minutes.
2. Partially fill the tank with water and add one of the cleaning agents listed below. Complete filling the tank with water, then flush the cleaning solution through the boom, hoses, and nozzles. Add water to completely fill the tank and allow to agitate or recirculate for at least 15 minutes. Again, flush the boom, hoses and nozzles, and drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing water and the cleaning agent.
4. Repeat Step 2.
5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing water through the boom and hoses.

NOTE: Use any of the following cleaning agents. Carefully read and follow the individual cleaning agent instructions.

1. One gallon of household ammonia (containing 3% active) per 100 gallons of water
2. Commercial spray tank cleaner

Do not drain or flush equipment on or near desirable trees or plants.

Do not contaminate any body of water including irrigation water that may be used on other crops.

If small quantities of F9177-2 WG remain in inadequately cleaned mixing, loading, and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. FMC accepts no liability for any effects due to inadequately cleaned equipment.

SPRAY DRIFT MANAGEMENT (MANDATORY)

Aerial Applications

Do not release spray at a height greater than 10 ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.

For all applications, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).

The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.

Applicators must use ½ swath displacement upwind at the downwind edge of the field.

Nozzles must be oriented so the spray is directed toward the back of the aircraft.

Do not apply when wind speeds exceed 10 miles per hour at the application site.

Do not apply during temperature inversions.

Ground Applications

Apply with the nozzle height directed by the manufacturer, but no more than 3 feet above the ground or crop canopy.

For all applications, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).

Do not apply when wind speeds exceed 10 miles per hour at the application site.

Do not apply during temperature inversions.

Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Boom

Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

Pressure - Use the lowest spray pressure directed for the nozzle to produce the target spray volume and droplet size.

Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size - Aircraft

Adjust Nozzles - Follow nozzle manufacturers directions for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT - Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying aurally to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

CROP	DISEASE (pathogen)	Product Rate (lb/A)	Application Instructions
<p>Cucurbits: Cucumber Cantaloupe Honeydew melon Muskmelon Pumpkin Squash Watermelon Zucchini Including cultivars and/or hybrids of these.</p> <p>Chayote Chinese waxgourd Gourds Momordica spp. (Bitter melon, Balsam apple)</p>	<p>Downy mildew** (<i>Pseudoperonospora cubensis</i>)</p>	<p>0.89 – 1.34 (0.58 lb ai chlorothalonil and 0.089 lb ai valifenalate – 0.87 lb ai chlorothalonil and 0.134 lb ai valifenalate)</p>	<p>Use in sufficient quantity of water to obtain maximum coverage.</p> <p>Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7-10 day intervals.</p> <p>**Do not apply to FRAC 40 resistant downy mildew populations.</p> <p>Note: Spraying mature watermelons may result in sunburn of the upper surface of the fruit. Do not apply to watermelons when any of the following conditions are present:</p> <ol style="list-style-type: none"> 1. Intense heat and sunlight 2. Drought conditions 3. Poor vine canopy 4. Other crop and environmental conditions which may be conducive to increased natural sunburn <p>Do not combine with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use.</p>
<p>Specific Use Restrictions:</p> <ul style="list-style-type: none"> • Do not apply more than a total of 4.0 pounds of F9177-2 WG (2.6 lb ai chlorothalonil and 0.4 lb ai valifenalate) per acre per year. • Maximum single applicaton rate is 1.34 lb F9177-2 WG/A • The minimum retreatment interval is 7 days. • Do not make more than 4 applications per year. • Do not apply within 1 day of harvest. 			

CROP	DISEASE (pathogen)	Product Rate (lb/A)	Application Instructions
Fruiting Vegetables: Eggplant Groundcherry Pepino Pepper (any variety) Tomatillo Tomato	Late blight (<i>Phytophthora infestans</i>)	0.89 – 1.34 (0.58 lb ai chlorothalonil and 0.089 lb ai valifenalate – 0.87 lb ai chlorothalonil and 0.134 lb ai valifenalate)	Use in sufficient quantity of water to obtain maximum coverage. Begin applications as a foliage, flower, and fruit spray when disease is expected. Repeat applications at 7-10 day intervals. Disease pressure and weather conditions determine rates of application and spray intervals. Consult local late blight advisories to determine the predicted disease pressure, userates and intervals. Begin applications prior to the onset of disease infection. Follow recommendations of the local late blight advisory system. Ensure complete spray coverage.
Specific Use Restrictions: <ul style="list-style-type: none"> • Do not apply more than a total of 4.0 pounds of F9177-2 WG (2.6 lb ai chlorothalonil and 0.4 lb ai valifenalate) per acre per year. • Maximum single applicaton rate is 1.34 lb F9177-2 WG/A • The minimum retreatment interval is 7 days. • Do not make more than 4 applications per year. • Do not apply within 1 day of harvest of tomatoes. • Do not apply within 3 days of harvest of fruiting vegetables, except tomatoes. 			

CROP	DISEASE (pathogen)	Product Rate (lb/A)	Application Instructions
Dry Bulb Onion Garlic	Downy mildew (<i>Pseudoperonospora cubensis</i>) Botrytis leaf blight (<i>Botrytis</i> spp) Purple blotch (<i>Alternaria porri</i>) Suppression: Botrytis neck rot	0.89 – 1.34 (0.58 lb ai chlorothalonil and 0.089 lb ai valifenalate – 0.87 lb ai chlorothalonil and 0.134 lb ai valifenalate)	Use in sufficient water to obtain thorough coverage of tops. Begin applications prior to favorable infection periods and repeat at 7 to 10 day intervals for as long as conditions favor disease. Use the high rate and a 7 day schedule of applications when heavy dew or rain persists.
Specific Use Restrictions: <ul style="list-style-type: none"> • Do not apply more than a total of 4.0 pounds of F9177-2 WG (2.6 lb ai chlorothalonil and 0.4 lb ai valifenalate) per acre per year. • Maximum single applicaton rate is 1.34 lb F9177-2 WG/A • The minimum retreatment interval is 7 days. • Do not make more than 4 applications per year. • Do not apply within 7 days of harvest. 			

CROP	DISEASE (pathogen)	Product Rate (lb/A)	Application Instructions
Onion (green bunching) Leek Shallots Garlic (grown for seed) Onions (grown for seed)	Downy mildew (<i>Pseudoperonospora cubensis</i>)	0.89 – 1.34 (0.58 lb ai chlorothalonil and 0.089 lb ai valifenalate – 0.87 lb ai chlorothalonil and 0.134 lb ai valifenalate)	Use in sufficient water to obtain thorough coverage of tops. Begin applications prior to favorable infection periods and repeat at 7 to 10 day intervals for as long as conditions favor disease. Use the high rate and a 7 day schedule of applications when heavy dew or rain persists.
<p>Specific Use Restrictions:</p> <ul style="list-style-type: none"> • Do not apply more than a total of 4.0 pounds of F9177-2 WG (2.6 lb ai chlorothalonil and 0.4 lb ai valifenalate) per acre per year. • Maximum single applicaton rate is 1.34 lb F9177-2 WG/A • Do not make more than 4 applications per year. • The minimum retreatment interval is 7 days. • Do not apply within 7 days of harvest for garlic. • Do not apply within 14 days of harvest for green bunching onions, leeks, and shallots. 			

CROP	DISEASE (pathogen)	Product Rate (lb/A)	Application Instructions
Potato	Late blight (<i>Phytophthora infestans</i>) Black dot (<i>Colletotrichum coccodes</i>) Botrytis vine rot (<i>B. cinerea</i>) Early blight (<i>Alternaria solani</i>)	0.89 – 1.34 (0.58 lb ai chlorothalonil and 0.089 lb ai valifenalate – 0.87 lb ai chlorothalonil and 0.134 lb ai valifenalate)	Begin applications when vines are first exposed and leaf wetness occurs. Repeat applications at 5 to 10 day intervals. Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occur: <ul style="list-style-type: none"> • Vines close within the rows • Late blight forecasting measures 18 disease severity values (DSV) • The crop reaches 300 P-days <p>Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe.</p>
<p>Specific Use Restrictions:</p> <ul style="list-style-type: none"> • Do not apply more than a total of 4.0 pounds of F9177-2 WG (2.6 lb ai chlorothalonil and 0.4 lb ai valifenalate) per acre per year. • Maximum single applicaton rate is 1.34 lb F9177-2 WG/A • The minimum retreatment interval is 7 days. • Do not make more than 4 applications per year. • Do not apply within 7 days of harvest. 			

CROP	DISEASE (pathogen)	Product Rate (lb/A)	Application Instructions
Celery	Downy mildew (<i>Peronospora umbellifarum</i>)	0.89 – 1.34 (0.58 lb ai chlorothalonil and 0.089 lb ai valifenalate – 0.87 lb ai chlorothalonil and 0.134 lb ai valifenalate)	Use in sufficient water to obtain thorough cover-age of tops. Begin applications prior to favorable infection periods, and repeat at 7 to 10 day intervals for as long as conditions favor disease. Use the high rate and a 7 day schedule of applications when heavy dew or rain persist.
Specific Use Restrictions: <ul style="list-style-type: none"> • Do not apply more than a total of 4.0 pounds of F9177-2 WG (2.6 lb ai chlorothalonil and 0.4 lb ai valifenalate) per acre per year. • Maximum single applicaton rate is 1.34 lb F9177-2 WG/A • The minimum retreatment interval is 7 days. • Do not make more than 4 applications per year. • Do not apply within 7 days of harvest. 			

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